REMARKS

Claims 1-38 remain in this application. Claims 1, 10-12, 15, 16, 18-20, 23, 26, 29-32, and 36-38 have been amended. No new matter has been added. Reconsideration is respectfully requested.

Applicant gratefully acknowledges the interview held by the Examiners, Wei Zhen and Anna Deng, with applicant's representative, Sanford T. Colb, Registration Number 26,856, on March 8, 2006. In the interview, the applicant's representative pointed out that the present invention is directed to evaluating message-flow testing. The Examiners agreed to take this into consideration when evaluating the present response. The Examiners further suggested amending "test suite" to "message-flow test suite" in the claims to clarify the claim language.

Independent claim 1 was rejected under 35 U.S.C. §102(e) over Alur et al. (US 6,516,306). As suggested by the Examiners, applicant has amended claim 1 to clarify the claim, by incorporating the phrase "message-flow" to describe the test suite recited by the claim. Applicant has further amended claim 1 to clarify the differences between the claimed invention and the cited art.

Applicant has amended independent claim 1 to clarify that results provided by embodiments of the present invention

are achieved by generating and comparing numerical values, and that these values are used to evaluate the adequacy of a suite of tests. Specifically, claim 1 recites defining coverage criteria which provide numerical values, such as numbers of statements executed or numbers of nodes visited, that measure how well the tests cover the particular property (statements executed or nodes visited, in these examples). The claim continues by reciting a numerical goal that is to be achieved by the test suite. The test suite is applied to the message flow, and the numerical results from execution of the test suite are compared with the numerical goal to measure the adequacy of the test suite.

The amendments to claim 1 are supported by the specification. For example, for the first claim element "Statement coverage calculates a percentage of statements executed in processing nodes containing code, during a full or partial execution of the test suite (page 29, lines 27-29); for the second claim element "... coverage goals for message flow 150 might be 100% processing node coverage, 100% connection coverage, and 50% message content coverage" (page 33, lines 21-23); and for the third element"... over a full or partial execution of the test suite ... message flow 150 achieved the following coverage: 81% statement coverage, 66%

connection coverage, 0% exception coverage, 81% statement coverage, and 66% condition coverage" (page 38, lines 18-23).

The final claim element recites comparing the numerical coverage result of the third claim element with the numerical goal of the second claim element, to evaluate adequacy of the test suite. Support for the numerical aspects have been given above. The adequacy evaluation is supported by: "Adequacy of a test suite is assessed according to one or more measured test coverage criteria corresponding to the message flow elements" (page 13, lines 21-23).

Alur describes "A system and method … for computationally efficient model checking of message flow diagrams … " (col. 2, lines 12-16). Alur's disclosure is directed to explaining his system, which uses two automata; as defined by Alur, "Automata are finite state machines … " (col. 5, line 13). To model check the message flow diagrams, Alur builds a test automaton and a specification automaton, and defines "languages" for the automata. The model checking corresponds to determining "… whether there is an execution in the intersection between the language of the test automaton and the language of the specification automaton (col. 2, lines 48-51)." In other words, the model checking of Alur explicitly provides a "go/no go" result (there is an execution or there

is not an execution). This type of result is inherent in model checking, which is essentially Boolean.

The model checking system of Alur is thus in complete contrast to the numerical requirements of claim 1, since Alur is neither explicitly nor implicitly able to generate such numerical values. In addition, Alur does not describe any method for evaluating adequacy of his (or any other) test system, as is required by claim 1, and Alur does not even suggest that such adequacy could be a concern.

Careful inspection of the whole of Alur's disclosure reveals neither the term "coverage" nor an equivalent of this term. Furthermore, the numerical aspects of coverage, recited in claim 1, are completely absent from Alur, since, as explained above, Alur's disclosure relates specifically to model checking. Thus, Alur neither teaches nor suggests using coverage criteria, a numerical coverage goal, nor a numerical coverage result.

In conclusion, not only is the present application directed to achieve a different goal from that of Alur, but there is no mention or suggestion in Alur of the elements claimed for achieving this goal, as recited in amended claim 1.

Thus, Alur fails to teach or even suggest the elements of claim 1. Therefore, claim 1 is believed to be patentable over the cited art.

Claims 2-17, 19-24, and 29-36 were rejected under 35 U.S.C. §102(e) over Alur. Claims 2-17, 19-24, and 29-36 depend from claim 1, and applicant has amended claims 10-12, 15, 16, 19, 20, 23, 29-32, and 36 to accord with amended claim 1, and to correct an informality in claim 30. In view of the patentability of claim 1, applicant respectfully submits that claims 2-17, 19-24, and 29-36 are patentable also.

Claim 18 was rejected under 35 U.S.C. §103(a) over Alur in view of Schwabe et al. (US 6,848,111). Claim 18 depends from claim 1, and applicant has amended claim 18 to accord with amended claim 1. In view of the patentability of claim 1, applicant respectfully submits that claim 18 is also patentable.

Claims 25-28 were rejected under 35 U.S.C. §103(a) over Alur in view of Schwabe, and further in view of Klein et al. (US 5,499,364). Claims 25-28 depend from claim 1, and applicant has amended claim 26 to accord with amended claim 1. In view of the patentability of claim 1, applicant respectfully submits that claims 25-28 are also patentable.

Independent claims 37 and 38 respectively recite apparatus and a computer software product for assessing

adequacy of a message-flow test suite, using methods similar to those recited in claim 1. The Examiner rejected these claims on the same grounds as claim 1. Applicant has clarified the language of claims 37 and 38, as suggested by the Examiners for claim 1, by incorporating the phrase "message-flow" to describe the test suite recited by the claims. Applicant has also amended claims 37 and 38, as described for claim 1, to clarify the differences between claims 37 and 38 and the cited art. For the reasons argued above with respect to claim 1, applicant respectfully submits that claims 37 and 38 are patentable over Alur.

Notwithstanding the patentability of independent claim 1, applicant believes that the dependent claims in this application recite subject matter that is independently patentable. In the interest of brevity, however, the patentability of the dependent claims will not be argued here.

Applicant has studied the additional prior art made of record by the Examiner. Applicant believes the amended claims in the present patent application to be patentable over the cited prior art as well, whether taken alone or in combination with other prior art.

Applicant believes that the above amendments and remarks are fully responsive to all of the objections and grounds of rejection raised by the Examiner. In view of these

amendments and remarks, applicant respectfully submits that all of the claims currently pending in the present application are in order for allowance. Notice to this effect is respectfully requested.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record. Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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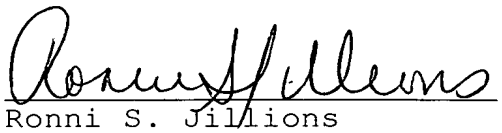
By 
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